



**Program Directory for
Hardware Configuration Definition and
Hardware Configuration Manager for z/VM**

function level 520

Program Number 5741-A05

for Use with
z/VM version 5 release 2

Document Date: December 2005

GI11-2855-00

Note

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 44.

This program directory, dated December 2005, applies to Hardware Configuration Definition and Hardware Configuration Manager for z/VM (HCD/HCM for z/VM), function level 520, Program Number 5741-A05.

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1.0 Introduction

This program directory is intended for the system programmer responsible for program installation and maintenance. It contains information that corresponds to the material and procedures for installation and service of Hardware Configuration Definition and Hardware Configuration Manager for z/VM (HCD/HCM for z/VM).

Note: It is recommended that you review this program directory in its entirety before you install or service this program, then keep this document for future reference.

The program directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for HCD/HCM for z/VM.
- 3.0, “Program Support” on page 6 describes the IBM support available for HCD/HCM for z/VM.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) incorporated into HCD/HCM for z/VM.
- 5.0, “Installation Requirements and Considerations” on page 8 identifies the resources and considerations for installing, migrating and using HCD/HCM for z/VM.
- 6.0, “Installation Instructions” on page 13 provides detailed installation instructions for HCD/HCM for z/VM.
- 7.0, “Service Instructions” on page 19 provides detailed servicing instructions for HCD/HCM for z/VM.
- Appendix A, “Applying a Recommended Service Upgrade (RSU) for HCD/HCM for z/VM” on page 28 provides detailed Recommended Service Upgrade instructions for HCD/HCM for z/VM.
- Appendix B, “Moving HCD/HCM for z/VM to SFS Directories and Creating a PPF Override” on page 36 describes how to move HCD/HCM for z/VM into SFS and how to create a Product Parameter File (PPF) override.
- Appendix C, “Copy of HCD/HCM for z/VM Sample Files” on page 42 describes how to copy supplied sample files for HCD/HCM for z/VM.

Obtaining Updated Planning Information

Before you install HCD/HCM for z/VM, read 3.1, “Preventive Service Planning” on page 6. This section describes how to obtain any updates to the information and procedures presented within this program directory.

1.1 Program Description

HCD/HCM for z/VM brings a new way of performing I/O configuration tasks to z/VM® customers. Using HCD/HCM for z/VM is optional.

z/VM HCD is an I/O configuration definition tool which validates channel subsystem and operating system definition at data-entry time. All I/O configuration settings are stored in a new optional I/O configuration repository called I/O Definition File (IODF). z/VM HCD is responsible for creating and maintaining the IODF. When using z/VM HCD support, z/VM Control Program (CP) reads its I/O configuration settings from the IODF during IPL. z/VM HCD allows for changing the I/O configuration dynamically by setting a new IODF active, without having to IML or IPL your VM system.

z/VM HCD supports I/O configuration for all hardware which is supported by z/VM version 5 release 2. z/VM HCD checks a broad range of I/O configuration rules. In particular, control unit and device specific rules are checked. z/VM HCD creates valid IOCDs from the IODF by running IOCP. When using z/VM HCD support, there is no need for z/VM customers to run IOCP directly.

HCD/HCM for z/VM contains Hardware Configuration Manager (HCM) which is a Graphical User Interface (GUI) running on a Windows™ PC workstation. HCM is a client program which needs a running z/VM HCD server on a z/VM system. z/VM HCD and HCM communicate via a TCP/IP connection mediated by the z/VM HCD TCP/IP dispatcher for HCM. In addition, z/VM HCD contains several REXX programs for accomplishing I/O configuration tasks.

2.0 Program Materials

An IBM program is identified by a program number. The program number for Hardware Configuration Definition and Hardware Configuration Manager for z/VM function level 520 is 5741-A05.

The z/VM version 5 release 2 program announcement material provides detailed information about the features supported by HCD/HCM for z/VM. If you have not already received a copy of this information, contact your IBM marketing representative.

The following sections identify:

- basic and optional program materials that are applicable to this program
- publications useful during installation and service.

2.1 Basic Machine-Readable Material

Hardware Configuration Definition and Hardware Configuration Manager for z/VM (HCD/HCM for z/VM) is distributed pre-installed on the z/VM version 5 release 2 System deliverables. Refer to the z/VM version 5 release 2 Software Announcement for information on ordering z/VM version 5 release 2 and its features.

2.2 Optional Machine-Readable Material

There are no features or optional machine-readable materials associated with HCD/HCM for z/VM.

2.3 Program Publications

The following sections identify the basic and optional publications associated with HCD/HCM for z/VM.

2.3.1 Basic Program Publications

One copy of the following publication is included when you order HCD/HCM for z/VM.

Figure 1. Basic Material: Unlicensed Publications

Publication Title	Form Number
Program Directory for Hardware Configuration Definition and Hardware Configuration Manager for z/VM	GI11-2855

2.3.2 Base Program Publications

Figure 2 identifies the base program publications associated with HCD/HCM for z/VM.

Figure 2. Program Publications - New Editions

Publication Title	Form Number
z/VM: I/O Configuration	SC24-6100
z/OS® and z/VM: Hardware Configuration Manager User's Guide	SC33-7989
z/OS and z/VM: Hardware Configuration Definition Messages	SC33-7986

2.3.3 Softcopy Publications

The HCD/HCM for z/VM publications are supplied softcopy as part of the *IBM Online Library: z/VM Collection* in BookManager® and Adobe™ Portable Document Format (PDF). One copy of the z/VM Collection CD-ROM and DVD is included when you order the basic materials for z/VM version 5 release 2.

In addition, the HCD/HCM for z/VM softcopy publications, including this program directory, are available in Adobe Portable Document Format from the z/VM internet library home page on the World Wide Web; the URL for this home page is:

www.ibm.com/eserver/zseries/zvm/library

The z/VM publications can be ordered separately, for a fee, using the specific publication number through the IBM Publication Center at:

www.ibm.com/shop/publications/order

The Publications Center is a world wide central repository for IBM product publications and marketing material. Furthermore, a large number of publications are available online in various file formats (e.g. Adobe PDF), which can currently be downloaded free of charge.

2.4 Program Source Materials

No program source materials or viewable program listings are provided with HCD/HCM for z/VM.

2.5 Publications Useful During Installation and Service

The publications listed in Figure 3 may be useful during the installation and servicing of HCD/HCM for z/VM. To order copies, visit the IBM Publications Center web site (url above) or contact your IBM representative.

Figure 3 (Page 1 of 2). Publications Useful During Installation / Service on z/VM version 5 release 2

Publication Title	Form Number
z/VM: I/O Configuration	SC24-6100
z/OS and z/VM: Hardware Configuration Manager User's Guide	SC33-7989

Figure 3 (Page 2 of 2). Publications Useful During Installation / Service on z/VM version 5 release 2

Publication Title	Form Number
z/OS and z/VM: Hardware Configuration Definition Messages	SC33-7986
z/VM: VMSES/E Introduction and Reference	GC24-6130
z/VM: Service Guide	GC24-6117
z/VM: CP Planning and Administration	SC24-6083
z/VM: CMS Commands and Utilities Reference	SC24-6073
z/VM: CMS File Pool Planning, Administration, and Operation	SC24-6074
z/VM: Other Components Messages and Codes	GC24-6120
z/VM: CMS and REXX/VM Messages and Codes	GC24-6118
z/VM: CP Messages and Codes	GC24-6119
z/VM: Reusable Server Kernel Programmer's Guide and Reference	SC24-6112
z/VM: TCP/IP Planning and Customization	SC24-6125
z/VM: TCP/IP User's Guide	SC24-6127

3.0 Program Support

This section describes the IBM support available for HCD/HCM for z/VM.

3.1 Preventive Service Planning

Before you install HCD/HCM for z/VM, check with your IBM Support Center or use IBMLink™ (ServiceLink) to determine if Preventive Service Planning (PSP) information is available that you should know. To obtain this information, specify the appropriate UPGRADE and SUBSET values listed in Figure 4:

Figure 4. PSP Upgrade and Subset ID

RETAIN®				
COMPID	Release	Upgrade	Subset	Component Name
568411219	520	ZVMHCD520	ZVMHCD/520	HCD/HCM for z/VM
568411219	520	ZVMHCD520	yynnRSU	RSU Service Recommendations

RSU-BY-LVL information can be obtained from the z/VM service RSU web site at this URL:

www.ibm.com/eserver/zseries/zvm/service/rsu

3.2 Statement of Support Procedures

With HCD/HCM for z/VM you are entitled to support under the basic warranty for z/VM version 5 release 2. Also, note that the z/VM Software Subscription and Support is *automatically* added to your z/VM order - this provides zSeries® service to which you are likely accustomed. If you do not want the z/VM Software Subscription and Support, then you must take specific action to decline it when ordering z/VM.

Report any difficulties you have using this program to your IBM Support Center.

When working with HCD/HCM for z/VM support personnel on problems associated with an active Problem Management Record (PMR), diagnostic information may occasionally be requested. In such cases, the support staff will work with you to determine how to provide them with the required documentation.

Figure 5 identifies IBM RETAIN information - the Component ID (COMPID), RETAIN Release, and Field Engineering Service Number (FESN) - that corresponds to HCD/HCM for z/VM.

Figure 5. Component IDs

RETAIN			
COMPID	Release	Component Name	FESN
568411219	520	HCD/HCM for z/VM	0409974

4.0 Program and Service Level Information

This section identifies the program level and any relevant service levels of HCD/HCM for z/VM. In this context *program level* refers to APAR fixes incorporated within the HCD/HCM for z/VM program; *service level* refers to PTFs that are supplied with this product. Information about the HCD/HCM for z/VM cumulative service tape is provided as well.

4.1 Program Level Information - HCD/HCM for z/VM

The following APAR fixes against previous release of HCD/HCM for z/VM have been incorporated into this release:

VM63288 VM63305 VM63337 VM63373 VM63450 VM63610 VM63620
VM63695 VM63721

4.2 Service Level Information

The service level of HCD/HCM for z/VM is that which is shipped on the z/VM System Deliverable plus any RSU that you may have installed during initial z/VM installation that has service on it for HCD/HCM for z/VM.

Before you install and configure HCD/HCM for z/VM, you should review the ZVMHCD520 PSP (Preventive Service Planning) "bucket" for updated installation information that you should be aware of, or for information about PTFs that should be installed. Specify upgrade and subset values of **ZVMHCD520** and **ZVMHCD/520**, respectively, when you request or obtain this information.

4.3 Cumulative Service (RSU) Information

Cumulative service for HCD/HCM for z/VM 520 is available through a periodic, preventive service deliverable, referred to as a Recommended Service Upgrade (RSU). The RSU is used to provide service updates for multiple z/VM components (including HCD/HCM for z/VM) and is often referred to as the *stacked* RSU. It will contain service for all of the components, features or products, in VMSES/E format, that are pre-installed on the z/VM version 5 release 2 System deliverables.

The stacked RSU can be obtained by ordering PTF **UM97520**.

Current RSU status and content information is available at the z/VM RSU home page on the World Wide Web; the URL for this home page is:

www.ibm.com/eserver/zseries/zvm/service/rsu

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing HCD/HCM for z/VM.

5.1 Hardware Requirements

A PC workstation is required to install and run the Hardware Configuration Manager (HCM) part of HCD/HCM for z/VM. Refer to the *z/OS and z/VM: Hardware Configuration Manager User's Guide* for details. All data exchange between z/VM HCD and HCM is based on the TCP/IP protocol. Refer to the Program Directory for TCP/IP for z/VM for hardware requirements resulting from TCP/IP.

5.2 Program Considerations

The following sections list the programming considerations for installing and activating HCD/HCM for z/VM.

5.2.1 Operating System Requirements

HCD/HCM for z/VM requires the following VM operating system:

- z/VM version 5 release 2

A PC workstation with a Windows NT™, Windows™ 2000 or Windows™ XP operating system is required to install and run the Hardware Configuration Manager (HCM). Refer to the *z/OS and z/VM: Hardware Configuration Manager User's Guide* for details.

5.2.2 Other Program Product Requirements

5.2.2.1 Other Program Product Requirements - HCD/HCM for z/VM

High Level Assembler for MVS™ & VM & VSE V1.4 (HLASM V1.4), or higher is required to migrate (convert) a file containing I/O configuration (IOCP) statements into an existing work IODF (using CBDSMIGR command). For more information see *z/VM: I/O Configuration*.

Note: Be aware that the High Level Assembler earlier than V1R5M0 is restricted to 255 characters for any keyword value. IOCP statements, however, may contain keywords with a value greater than 255 characters. Therefore, the High Level Assembler for MVS & VM & VSE V1.5 (HLASM V1.5) is recommended.

5.2.2.2 Other Program Product Requirements - HCM

For using the Hardware Configuration Manager (HCM) as a Graphical User Interface (GUI) to HCD/HCM for z/VM, the following program products are required:

- TCP/IP for z/VM, level 520 must be installed and configured on your z/VM system. Refer to the Program Directory for TCP/IP for z/VM for details.
- The TCP/IP network protocol must be installed and configured on your PC workstation. Refer to the *z/OS and z/VM: Hardware Configuration Manager User's Guide* for details.

5.2.3 Migration Considerations

5.2.3.1 IODF Migration

With z/VM version 5 release 2, HCD/HCM for z/VM starts using the new version 5 (V5) IODF format. Existing V4 format IODFs, created on earlier releases of HCD/HCM for z/VM, can be read/viewed, IPLed or dynamically activated on z/VM version 5 release 2 without being permanently upgraded to the new format. HCD/HCM for z/VM detects the back level IODF format and upgrades the IODF temporarily in storage.

A permanent IODF upgrade to a V5 IODF is required before any change action is applied to the V4 IODF. The upgrade can be accomplished

- by using the COPY IODF function under HCM
- OR
- by running the CBDSCOPY exec

thereby copying the V4 IODF to a new IODF or doing a replace.

On HCD/HCM for z/VM releases prior to z/VM version 5 release 2 limited read-only access to V5 IODFs is enabled when the compatibility APAR VM63721 is installed.

For details on upgrading the IODF to the new format refer to the *z/OS and z/VM: Hardware Configuration Manager User's Guide* or Chapter 5, section 'The New IODF Version 5 Format' and the COPY IODF function CBDSCOPY in the *z/OS and z/VM: z/VM: I/O Configuration*.

5.2.3.2 Customizable Parts

There have been no changes to the customizable parts for HCD/HCM for z/VM, except for CBDSDPRF SAMPPROF (to update a SFS directory name); therefore you can migrate your existing HCD/HCM for z/VM versions of these files to the new z/VM release. Be aware that you will have to update the SFS directory name in the PROFILE EXEC for CBDIODSP.

If you use the new migration procedure, as documented in the *z/VM: Guide for Automated Installation and Service* to migrate HCD/HCM for z/VM from a z/VM V5.1 system to z/VM V5.2, the customizable files will be migrated to z/VM V5.2, where possible. If the customizable files have been changed on the new level of HCD/HCM for z/VM and you have made changes to them on your z/VM V5.1 system, you will be told to

rework your changes. The HCD/HCM for z/VM production build disks (default 300 and 400) will be migrated. Also, the CBDIODSP 191 disk will be migrated.

5.2.3.3 Increased Virtual Machine Size for z/VM HCD TCP/IP Dispatcher

With z/VM version 5 release 2, the z/VM HCD TCP/IP dispatcher user ID, CBDIODSP, entry in the CP user directory has the virtual machine size defined as 256M, with a maximum size of 999M, in order to satisfy an increased storage requirement to run the IOCP program.

5.2.4 Program Installation and Service Considerations

This section describes items that should be considered before you install or service HCD/HCM for z/VM.

- HCD/HCM for z/VM is pre-installed on the z/VM version 5 release 2 System deliverables.
- VMSES/E is required to install and service this product.
- If multiple users install and maintain licensed products on your system, you may encounter problems when you attempt to gain write access to the Software Inventory (MAINT 51D) minidisk. Write access contention to this minidisk can be eliminated by converting the Software Inventory to use CMS Shared File System (SFS) directories instead of minidisks. See the *z/VM: VMSES/E Introduction and Reference*, section "Changing the Software Inventory to an SFS Directory", for information about how to make this change.
- An RSU deliverable will be supplied as necessary. Service between RSUs can be obtained through CORrective service.

5.3 DASD Storage and User ID Requirements

Figure 6 on page 11 lists the user IDs, minidisks and default SFS directory names that are used to install and service HCD/HCM for z/VM.

Important Installation Notes:

- The user IDs necessary for installing and using HCD/HCM for z/VM have been defined as part of the installed z/VM version 5 release 2 System deliverables. Likewise, all required minidisks have been defined. The resources are listed in Figure 6 on page 11 so you are aware of the resources that will be allocated on your behalf.

Note: The installation and set up of HCD/HCM for z/VM on the z/VM System deliverables is a standard setup. If you:

- need to set up security using an external security manager (like RACF®)
- customize
- need to review the directory entry for the z/VM HCD TCP/IP dispatcher service virtual machine (default is CBDIODSP)

please refer to Chapter 2 'Installing HCM' in the *z/OS and z/VM: Hardware Configuration Manager User's Guide* for more information. (For security, also take note of the section on 'Setting up Security').

- If you choose to move HCD/HCM for z/VM from minidisk to SFS (Shared File System), if you did not do it at initial z/VM install time, or if you want to change from the default SFS file pool or directories, then you will need to follow the steps in Appendix B, "Moving HCD/HCM for z/VM to SFS Directories and Creating a PPF Override" on page 36. These steps will have you create the SFS directories, move the files to the SFS directories and create a PPF override.

Note - z/VM Automated Service Procedure

If you modify any of the IBM-supplied default user IDs, minidisk addresses, or SFS directory names associated with HCD/HCM for z/VM and you plan on using the z/VM automated service procedure (the **SERVICE** and **PUT2PROD** commands) to service your z/VM system, then you must create a PPF override for the **SERVP2P \$PPF** file.

You must also use the **VMFUPDAT** command to update the VM SYSSUF Software Inventory file so that your PPF override for SERVP2P is used for automated service processing instead of the SERVP2P PPF. For more information about PPF overrides, see the *z/VM: VMSES/E Introduction and Reference*.

Figure 6 (Page 1 of 2). DASD Storage Requirements for Target Minidisks

Minidisk owner (user ID)	Default Address	Storage in Cylinders		SFS 4K Blocks (2*)	Usage
		DASD	CYLS (1*)		Default SFS Directory Name
5VMHCD20	2B2	3390	45	8100	Contains all the base code shipped with HCD/HCM for z/VM VMSYS:5VMHCD20.VMHCD.OBJECT
5VMHCD20	2C2	3390	3	540	Contains sample files and user local modifications for HCD/HCM for z/VM VMSYS:5VMHCD20.VMHCD.LOCAL
5VMHCD20	2D2	3390	100	18000	Contains serviced files VMSYS:5VMHCD20.VMHCD.DELTA

Notes:

1. Cylinder values defined in this table are based on a 4K block size.
2. For installation to SFS directories, a total of **60120** 4K blocks are required.
3. This minidisk **CANNOT** be defined in SFS. Also this minidisk **MUST** be formatted with a 4K blksize.
4. Additional storage space may need to be allocated for the z/VM TCP/IP dispatcher virtual machine's 191 disk to accommodate the size of your I/O configuration, the logging of tracing or other activities.
5. IODF files must reside on a minidisk that is formatted with a blksize of 4K.

Figure 6 (Page 2 of 2). DASD Storage Requirements for Target Minidisks

Minidisk owner (user ID)	Default Address	Storage in Cylinders		SFS 4K Blocks (2*)	Usage
		DASD	CYLS (1*)		Default SFS Directory Name
5VMHCD20	2A6	3390	2	360	Contains AUX files and software inventory tables that represent the test service level of HCD/HCM for z/VM VMSYS:5VMHCD20.VMHCD.APPLYALT
5VMHCD20	2A2	3390	2	360	Contains AUX files and software inventory tables that represent the service level of HCD/HCM for z/VM that is currently in production. VMSYS:5VMHCD20.VMHCD.APPLYPROD
5VMHCD20	300	3390	60	10800	Test build disk. This code will be copied to production disk 400. VMSYS:5VMHCD20.VMHCD.BUILDST
5VMHCD20	400	3390	60	10800	Production build disk. VMSYS:5VMHCD20.VMHCD.BUILDPRD
5VMHCD20	29D	3390	12	2160	Help file disk. This code will be copied to a production disk, (e.g. MAINT 19D) so the production disk will also require this amount of free space. VMSYS:5VMHCD20.VMHCD.BUILDHLP
5VMHCD20	191	3390	50	9000	5VMHCD20 user ID's 191 minidisk VMSYS:5VMHCD20
CBDIODSP	191	3390	120	N/A (3*)	z/VM HCD TCP/IP dispatcher machine's 191 minidisk(4*)(5*)

Notes:

1. Cylinder values defined in this table are based on a 4K block size.
2. For installation to SFS directories, a total of **60120** 4K blocks are required.
3. This minidisk **CANNOT** be defined in SFS. Also this minidisk **MUST** be formatted with a 4K blksize.
4. Additional storage space may need to be allocated for the z/VM TCP/IP dispatcher virtual machine's 191 disk to accommodate the size of your I/O configuration, the logging of tracing or other activities.
5. IODF files must reside on a minidisk that is formatted with a blksize of 4K.

6.0 Installation Instructions

This chapter describes the installation methods and the step-by-step procedures to complete the installation and activate HCD/HCM for z/VM.

HCD/HCM for z/VM was pre-installed, using VMSES/E, on the z/VM System deliverables.

6.1 Place HCD/HCM for z/VM Into Production

6.1.1 Setting up Security for HCD/HCM for z/VM

You can exploit native CP methods to set up security or you can use an external security manager.

To set up security with native CP, go to section 6.1.1.1, “ Setting Up Security with native CP.”

To set up security using an External Security Manager, go to section 6.1.1.2, “ Setting Up Security with RACF/VM External Security Manager” on page 14. This section will use RACF/VM as an example.

For further information on using security with HCD/HCM for z/VM refer to Chapter 2 'Installing HCM' in the *z/OS and z/VM: Hardware Configuration Manager User's Guide* manual.

6.1.1.1 Setting Up Security with native CP

To use native CP for security the following things need to do done.

- 1** The HCD/HCM for z/VM CBDCONF NAMES file needs to have the following entry

```
:SECURITY.CP
```

This is the default shipped in the file.

- 2** In the CP directory entry for the dispatcher service virtual machine, user CBDIODSP, you need to add the directory statement:

```
OPTION DIAG88
```

- 3** Make sure the password for the dispatcher service virtual machine, user CBDIODSP, in the CP directory entry, is set according to your company's security rules.

Proceed with section 6.1.2, “Install Hardware Configuration Manager (HCM)” on page 16.

6.1.1.2 Setting Up Security with RACF/VM External Security Manager

To use RACF/VM as the ESM, perform the following procedure to authorize virtual machines to issue RACROUTE requests. For more information, refer to *External Security Interface (RACROUTE) - Macro Reference for MVS and VM*.

Note: RACF must be enabled and running on your system in order to perform this procedure.

- 1** The CBDCONF NAMES file needs to have the following entry
:SECURITY.ESM
- 2** Identify the RACF/VM service machine to which RACROUTE requests will be sent. Make sure the z/VM HCD TCP/IP dispatcher service virtual machine (CBDIODSP) has access to the RACF SERVMACH file. See the *RACF System Programmer's Guide* for more information.
- 3** Give the z/VM HCD TCP/IP dispatcher permission to perform password validation using the RPIVAL command (which uses DIAGNOSE X'A0' subcode X'04').
 - a** Define a RACF profile called DIAG0A0.VALIDATE in class VMCMD, if it does not already exist, and ensure that profile DIAG0A0.VALIDATE has a UACC of NONE.

```
rac rdefine vmcmd diag0a0.validate uacc(none)
```

- b** Allow the z/VM HCD TCP/IP dispatcher (CBDIODSP) to use DIAGNOSE X'A0' subcode X'04' by giving it READ access to the DIAG0A0.VALIDATE profile.

```
rac permit diag0a0.validate class(vmcmd) id(cbdiodsp) access(read)
```

- c** If the VMCMD class is not already active, use the SETROPTS commands to activate it.

```
rac setropts classact(vmcmd)
```

- d** Make sure that the protection of DIAGNOSE X'A0' is active. It is active by default, if the installation has not changed the setting in the currently active VMXEVENT profile.

- 1** Check to see if active by issuing

rac setevent list

DIAG0A0 should say CONTROL if it is active

2 If DIAG0A0 is not currently active, then activate it

rac ralter vmxevent events1 delmem(diag0a0/noctl)
rac setevent refresh events1

4 Make sure the z/VM HCD TCP/IP dispatcher (CBDIODSP) has IUCV authorization by performing one of these two steps.

- Update the RACF/VM service machine's (RACFVM is default) CP directory by adding IUCV ALLOW to provide global IUCV authorization, so that any user in the system can connect to the RACF/VM service machine.

- OR -

- Give IUCV authorization to the z/VM HCD TCP/IP dispatcher. Update the CBDIODSP CP USER directory by adding the following IUCV statement that specifies the RACF/VM service machine with which the RACROUTE issuer will be communicating.

IUCV RACFVM PRIORITY MSGLIMIT 255

5 RACF-authorize a connection to the RACF/VM service machine.

a Log on to a user ID the has RACF system-SPECIAL attribute.

b Create a profile named ICHCONN in the FACILITY class.

rac rdefine facility ichconn uacc(none)

c Give UPDATE access authority to CBDISDSP

rac permit ichconn class(facility) id(cbdiodsp) access(update)

d Activate the FACILITY class (if not already active)

rac setropts classact(facility)

e In the PROFILE EXEC for CBDISDSP (z/VM HCD TCP/IP dispatcher) initialize the connection to the RACF/VM virtual machine by removing the comment characters in the line /* RPIUCMS INIT */. To look like:

Proceed with section 6.1.2, "Install Hardware Configuration Manager (HCM)."

6.1.2 Install Hardware Configuration Manager (HCM)

Install the Hardware Configuration Manager (HCM) part of HCD/HCM for z/VM using the following instructions. For your convenience these instructions can also be found in 'Chapter 2. Installing HCM' in the the *z/OS and z/VM: Hardware Configuration Manager User's Guide*.

- 1** Log on to the installation user ID, 5VMHCD20
- 2** Download to the PC, in binary mode, the install shield file EEQINSTX EXEBIN. This file is on the 5VMHCD20 production disk, 400, or SFS directory, VMSYS:5VMHCD20.VMHCD.BUILDPRD. Use a transfer program of your choice. The file must be executable on the PC therefore you need to make sure it has an extension of EXE when you download it.
- 3** Invoke the HCM install utility that now resides on your workstation, e.g. choose the RUN option in the START menu. This will install HCM. The HCM installation creates an entry in your START menu, that you can use to launch HCM.

6.1.3 Activate HCD/HCM for z/VM

Following are instructions for starting and stopping the z/VM HCD TCP/IP dispatcher service virtual machine in order to communicate between z/VM HCD and HCM. For your convenience these commands are also provided in *z/OS and z/VM: Hardware Configuration Manager User's Guide*.

- 1** Log on to the z/VM HCD TCP/IP dispatcher for HCM service virtual machine. The default user ID is CBDIODSP.

Notes:

- a. If the name of your TCP/IP service virtual machine is not equal to TCPIP, then you must change the TCP START command in the PROFILE RSK file (on CBDISDSP 191 A-disk). Refer to the *z/VM: Reusable Server Kernel - Programmers Guide and Reference* for information on the TCP START command.
- b. The z/VM HCD TCP/IP dispatcher, CBDIODSP, uses 51107 as its default port. You should reserve this port in TCP/IP's PROFILE TCPIP. You should add the following entries to the PORT section of TCP/IP's PROFILE TCPIP.

```
PORT
51107 TCP CBDIODSP      ; HCD server
51107 UDP CBDIODSP     ; HCD server
```

- c. Recycle TCP/IP.

Note that you can change the port to something else. If you do, update the CBDCONF NAMES file on the A-disk of the CBDIODSP user ID as well as the PROFILE TCPIP.

- 2** Start the z/VM HCD HCD TCP/IP dispatcher for HCM by issuing the command CBDSDISP in CMS while logged on to the CBDIODSP user ID. Wait for text messages and verify that all services started correctly. Following are messages that you will see after issuing CBDSDISP:

```
IBM VM/ESA® Reusable Server Kernel
(C)Copyright 1993,1994,1995,1996,1997,1998
International Business Machines Corporation.
All Rights Reserved.
RSK>
SUBCOM BKWSCM0000I Operation completed OK.
SUBCOM BKWSCM0000I Operation completed OK.
CONSOLE BKWCNS0000I Operation completed OK.
CONSOLE BKWCNS0000I Operation completed OK.
TCP BKWTCP0000I Operation completed OK.
CBDD200I z/VM 5.2.0 HCD TCP/IP dispatcher for HCM successfully started.
TCP BKWTCP0000I Operation completed OK.
SUBCOM BKWSCM0000I Operation completed OK.
CONSOLE BKWCNS0000I Operation completed OK.
```

You may disconnect this machine at this time.

- 3** On your workstation, start HCM. This can be done either by starting the executable or by double-clicking with the left mouse button on one of your saved HCM configuration files in Windows Explorer. In the latter case, the configuration is loaded as soon as HCM is running. The Product Information window of the Hardware Configuration Manager (HCM) program is displayed.
- 4** Enter the z/VM HCD TCP/IP dispatcher service virtual machine user ID, default is CBDIODSP, and its password. Use the z/VM TCP/IP hostname or IP address, of the system where HCD is installed, and your port number (51107 is the default).
- 5** Optionally, you can switch on the HCD trace, if needed.
- 6** Work with HCM. Refer to the 'Getting Started' chapter in the *z/OS and z/VM: Hardware Configuration Manager User's Guide*.
- 7** Exit from HCM on your workstation.
- 8** Stop the z/VM HCD TCP/IP dispatcher for HCM by issuing the command 'SERVER STOP' on the CBDIODSP console. If you disconnected the

dispatcher user ID then you need to log back on to issue the command. You should see the following:

```
SERVER STOP
RSK>
SERVER BKWSRV0300I Shutdown initiated.
CBDD210I z/VM 5.2.0 HCD TCP/IP dispatcher for HCM stopped.
Ready;
```

Note: The dispatcher can be started again using step 2 on page 17 above; there is no need to logoff and logon again.

HCD/HCM for z/VM is now installed and ready to use on your system. To use HCD/HCM for z/VM go to the *z/VM: I/O Configuration* and *z/OS and z/VM: Hardware Configuration Manager User's Guide* publications.

Note: Refer to section 5.2.3.1, "IODF Migration" on page 9 if you plan on using your IODF created by HCD/HCM for z/VM FL440 with HCD/HCM for z/VM FL520.

7.0 Service Instructions

Note - z/VM Automated Service Procedure

The **preferred** method for installing service to HCD/HCM for z/VM is to use the z/VM automated service procedure (use of the **SERVICE** and **PUT2PROD** commands).

If you have chosen to use the automated procedure to apply preventive (RSU) and CORrective service to your z/VM system, you need to follow the service instructions documented in the *z/VM: Guide for Automated Installation and Service* manual instead of those presented here.

RSU Note

If applying a HCD/HCM for z/VM RSU go to the instructions in Appendix A, "Applying a Recommended Service Upgrade (RSU) for HCD/HCM for z/VM" on page 28. You will return to a step in this chapter, as specified in that appendix.

This section of the Program Directory contains the procedure to install CORrective service to HCD/HCM for z/VM. VMSES/E is used to install service for HCD/HCM for z/VM.

To become more familiar with service using VMSES/E, you should read the introductory chapters in the *z/VM: VMSES/E Introduction and Reference*. This manual also contains the command syntax for the VMSES/E commands listed in the procedure.

Note: Each step of the servicing instructions must be followed. Do not skip any step unless directed to do so. All instructions showing accessing of disks assume the use of default minidisk addresses. If different minidisk addresses are used, or if using a shared file system, change the instructions appropriately.

7.1 VMSES/E Service Process Overview

The following is a brief description of the main steps in servicing HCD/HCM for z/VM using VMSES/E.

- Setup Environment

Access the software inventory disk. Use the VMFSETUP command to establish the correct minidisk access order.

- Merge Service

Use the VMFMRDSK command to clear the alternate apply disk before receiving new service. This allows you to remove the new service if a serious problem is found.

- Receive Service

The VMFREC command receives service from the delivery media and places it on the Delta disk.

- Apply Service

The VMFAPPLY command updates the version vector table (VVT), which identifies the service level of all the serviced parts. In addition, AUX files are generated from the VVT for parts that require them.

- Reapply Local Service (if applicable)

All local service (mods) must be entered into the software inventory to allow VMSES/E to track the changes and build them into the system. Refer to Chapter 5 in the *z/VM: Service Guide* for this procedure.

- Build New Levels

The build task generates the serviced level of an object and places the new object on a test BUILD disk.

- Place the New Service into Production

Once the service is satisfactorily tested it should be put into production by copying the new service to the production disk.

7.2 Servicing HCD/HCM for z/VM

7.2.1 Prepare to Receive Service

Electronic Service (envelope file)

If you have received the service electronically or on CD-ROM, follow the appropriate instructions to retrieve and decompress the envelope file to your A-disk. The decompression is currently done by using the DETERSE MODULE (shipped with VMSES/E).

The documentation envelope and the service (PTF) envelope files must have a file type of SERVLINK. Make note of the file names that you are using as you will need to enter them in place of the variable *envfilename* on the VMFREC commands that follow.

The *ppfname* used throughout these servicing instructions is **5VMHCD20**, which assumes you are using the PPF supplied by IBM for HCD/HCM for z/VM. If you have your own PPF override file for HCD/HCM for z/VM, you should use your file's *ppfname* instead of **5VMHCD20**. The *ppfname* you use should be used **throughout** the rest of this procedure, unless otherwise stated differently.

- 1** Logon to HCD/HCM for z/VM service user ID **5VMHCD20**
- 2** If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT 51D minidisk was accessed R/O because someone else has it R/W, you will need to have the user that has it accessed R/W link it R/O. You then can issue the following commands to obtain R/W access to it.

**link MAINT 51d 51d mr
access 51d d**

The 51D minidisk is the default minidisk where the VMSES/E Software Inventory files and other product dependent files reside.

If your VMSES/E Software Inventory is on a different minidisk or in shared file (SFS), use that address or SFS directory name instead.

3 Have the HCD/HCM for z/VM CORrective service tape mounted and attached to **5VMHCD20**. If you have a CORrective service envelope (SERVLINK) file make sure that is it available on the A-disk or any minidisk or SFS directory accessed as C.

4 Receive the documentation.

a If receiving the service from **tape**

vmfrec info

The INFO option loads the documentation (including the product service memo) to the 191 disk and displays a list of products on the tape.

b If receiving the service from an **envelope** file

vmfrec info (env *envfilename*

envfilename is the file name of the documentation envelope (SERVLINK) file.

The INFO option loads the documentation (including the product service memo) to the 191 disk and displays a list of products in the envelope.

5 Check the receive message log (\$VMFREC \$MSGLOG) for warning and error messages.

vmfview receive

Also make note of which products and components have service. To do this, use the PF5 key to show all status messages which identify the products with service.

6 Read the product memo (5VMHCD20 MEMO) before going on.

7 Setup the correct product access order.

vmfsetup 5VMHCD20 {VMHCD | VMHCDSFS}

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

- 8** Merge previously applied service to ensure that you have a clean alternate APPLY disk for new service.

vmfmrdsk 5VMHCD20 {VMHCD | VMHCDSFS} apply

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

This command clears the alternate APPLY disk.

- 9** Review the merge message log (\$VMFMRD \$MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview mrd

7.2.2 Receive the Service

Note: If you are installing multiple service tapes, you can receive all of the service for this prodid before applying and building it.

For **each** service tape or electronic envelope you want to receive, do the following:

- 1** Receive the service.

a If receiving the service from **tape**

vmfrec ppf 5VMHCD20 {VMHCD | VMHCDSFS}

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

This command receives service from your service tape. All new service is loaded to the DELTA disk.

b If receiving the service from an **envelope** file

vmfrec ppf 5VMHCD20 {VMHCD | VMHCDSFS} (env envfilename

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

envfilename is the file name of the service (PTF) envelope (SERVLINK) file.

This command receives service from your service envelope. All new service is loaded to the DELTA disk.

- 2** Review the receive message log (\$VMFREC \$MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview receive

7.2.3 Apply the Service

- 1** Apply the new service.

vmfapply ppf 5VMHCD20 {VMHCD | VMHCDSFS}

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

This command applies the service that you just received. The version vector table (VVT) is updated with all serviced parts and all necessary AUX files are generated on the alternate APPLY disk.

Note: If you receive a return code of 4 this may indicate that you have local modifications that need to be reworked so make sure you review the VMFAPPLY message log as documented in the next step.

- 2** Review the apply message log (\$VMFAPP \$MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview apply

Note

If you get the message VMFAPP2120W then re-work any local modifications before building the new HCD/HCM for z/VM. Refer to Chapter 7, 'Reworking Local Service and Modifications', in the *z/VM: Service Guide*. Follow the steps that are applicable to your local modification.

The following substitutions need to be made:

- **zvm** should be **5VMHCD20**
- *compname* should be **VMHCD** or **VMHCDSFS** (minidisk or SFS)
- *fm-local* should be the fm of 2C2
- *localmod* should be **local**

If you have changed any of the installation parameters through a PPF override, you need to substitute your changed values where applicable.

Keep in mind that when you get to the "Return to the Appropriate Section to Build Remaining Objects" or "Rebuild Remaining Objects" step in the *z/VM: Service Guide*, you should return back to this program directory at 7.2.4, "Update the Build Status Table."

7.2.4 Update the Build Status Table

- 1 Update the Build Status Table with serviced parts.

vmfbld ppf 5VMHCD20 {VMHCD | VMHCDSFS} (status

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

This command updates the Build Status Table.

Note

If the \$PPF files have been serviced you will get the following prompt:

VMFBLD2185R The following source product parameter files have been serviced:

VMFBLD2185R 5VMHCD20 \$PPF

VMFBLD2185R When source product parameter files are serviced, all product parameter files built from them must be recompiled using VMFPPF before VMFBLD can be run.

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF.

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF.

0

Enter a 0 and complete the following steps before you continue.

VMFBLD2188I Building 5VMHCD20 \$PPF
on 191 (A) from level \$PFnnnnn

vmfppf 5VMHCD20 *

Note: If you've created your own PPF override then use your PPF name instead of 5VMHCD20.

**copy 5VMHCD20 \$PPF a = d (oldd replace
erase 5VMHCD20 \$PPF a**

Note: Do not use your own PPF name in place of 5VMHCD20 for the COPY and ERASE commands.

vmfbl d ppf 5VMHCD20 {VMHCD | VMHCDSFS} (status

1

Re-issue VMFBLD to complete updating the build status table. If you have your own PPF name then you should use it on the VMFBLD command.

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories. When you receive the prompt that was previously displayed, enter a 1 to continue.

2 Use VMFVIEW to review the build status messages, and see what objects need to be built.

vmfview build

7.2.5 Build Serviced Objects

- 1 Rebuild HCD/HCM for z/VM serviced parts.

vmfbld ppf 5VMHCD20 {VMHCD | VMHCDSFS} (serviced

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

Note: If your software inventory disk (51D) is not owned by the MAINT user ID then make sure the VMSESE PROFILE reflects the correct owning user ID.

- 2 Review the build message log (\$VMFBLD \$MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview build

7.3 Place the New HCD/HCM for z/VM Service Into Production

7.3.1 Copy the New HCD/HCM for z/VM Serviced Files Into Production

- 1 Logon to **5VMHCD20** to put HCD/HCM for z/VM code on the 'production' build disk.

- a If installed using minidisks

access 300 e

access 400 f

vmfcopy * * e = f (prodid 5VMHCD20%VMHCD olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the 400 disk.

- b If installed using Shared File System

access VMSYS:5VMHCD20.VMHCD.BUILDST e The VMFCOPY command will update the VMSES
access VMSYS:5VMHCD20.VMHCD.BUILDPRD f PARTCAT file on the 400 disk.
vmfcopy * * e = = f (prodid 5VMHCD20%VMHCD olddate replace

2 Logon to **MAINT** if you plan to put HCD/HCM for z/VM help files on the system AMENG Help (MAINT's 19D) disk.

a If installed using minidisks

link 5VMHCD20 29d 29d rr The VMFCOPY command will update the VMSES
access 29d e PARTCAT file on the AMENG Help (MAINT 19D)
acc 19d f disk.

vmfcopy * * e = = f (prodid 5VMHCD20%VMHCD olddate replace

b If installed using Shared File System

access VMSYS:5VMHCD20.VMHCD.BUILDHLP e The VMFCOPY command will update the VMSES
acc 19d f PARTCAT file on the AMENG Help (MAINT 19D)
disk.

vmfcopy * * e = = f (prodid 5VMHCD20%VMHCD olddate replace

3 Re-build the CMS HELP logical saved segment, to include HCD/HCM for z/VM's help files from the AMENG Help (MAINT's 19D)disk. See the "Placing (Serviced) Components into Production" section of the *z/VM: Service Guide* for detailed information about how these segments should be saved on your system. (Note that you will need to use (**all** instead of (**serviced** on the VMSES/E VMFBLD command when re-building any segments.)

7.3.2 Copy the new Serviced HCM Install Utility file Into Production

If you received message VMFBDC2250W during build processing, then the HCM install utility file, EEQINSTX EXEBIN, was serviced. You need to follow the instructions at 6.1.2, "Install Hardware Configuration Manager (HCM)" on page 16 to make this new code available.

7.3.3 Re-activate HCD/HCM for z/VM TCP/IP Dispatcher

You need to re-activate the HCD/HCM for z/VM TCP/IP Dispatcher service virtual machine (CBDIODSP). Follow the instructions in section 6.1.3, "Activate HCD/HCM for z/VM" on page 16 to stop the server (step 8 on page 17) and start it again.

You have finished servicing HCD/HCM for z/VM.

Appendix A. Applying a Recommended Service Upgrade (RSU) for HCD/HCM for z/VM

Note - z/VM Automated Service Procedure

The **preferred** method for installing service to HCD/HCM for z/VM is to use the z/VM automated service procedure (use of the **SERVICE** and **PUT2PROD** commands).

If you have chosen to use the automated procedure to apply preventive (RSU) and CORrective service to your z/VM system, you need to follow the service instructions documented in the *z/VM: Guide for Automated Installation and Service* manual, instead of those presented here.

The RSU is structured to install all PTFs included on the RSU deliverable plus the files containing the preapplied service and prebuilt objects. All PTF-related files are loaded to the DELTA disk. The file containing the preapplied service, i.e. containing the results of VMFAPPLY, is loaded to the alternate APPLY disk and the contents of the files containing prebuilt objects are loaded to the appropriate build disks.

Points to consider about using the Product Service Upgrade procedure are:

- This process will not alter any of your tailored flat files (files serviced full part replacement only) in any way. Local modifiable files you may have updated will have to be re-worked to include any new service to these files.
- Planning must be done (such as determining disk sizes, and determining what service, if any, on your existing system is not contained on the RSU) prior to actually loading the service from the RSU. These tasks will be discussed.

The following is an overview of what tasks need to be performed during the Preventive Service procedure (PSU) using the RSU:

- Prepare System

In this task, you will receive the documentation contained on the RSU and determine the DASD required to install the RSU.

- Merge Service

Use the VMFMRDSK command to clear the alternate APPLY disk before receiving the RSU. This allows you to remove the new service if a serious problem is found.

- Receive Service

The VMFINS command receives service from the RSU and places it on the DELTA disk.

- Apply Additional Service

The VMFAPPLY command updates the version vector table (VVT), which identifies the service level of all the serviced parts. In addition, AUX files are generated from the VVT for parts that require them.

These steps are used to reapply service that was not contained on the RSU that was already installed for HCD/HCM for z/VM.

- Reapplying Local Modifications (if applicable)

All local modifications must be entered into the software inventory to allow VMSES/E to track the changes and build them into the system.

- Building New Levels

The build tasks generates the serviced level of an object and places the new object on a BUILD disk.

- Placing the New Service into Production

Once the service is satisfactorily tested it should be put into production by copying the new service to the production disk, re-saving the NSS (Named Saved System) or DCSS (Discontiguous Saved Segments), etc.

A.1 Apply HCD/HCM for z/VM RSU

A.1.1 Prepare Your System for Service Refresh

The *ppfname* used throughout these instructions is **5VMHCD20**, which assumes you are using the PPF supplied by IBM for HCD/HCM for z/VM. If you have your own PPF override file for HCD/HCM for z/VM you should use your file's *ppfname* instead of **5VMHCD20**. The *ppfname* you use should be used **throughout** the rest of this procedure.

Electronic Service (envelope file)

If you have received the RSU as an envelope file or on CD-ROM, follow the appropriate instructions to retrieve and decompress the envelope file(s) to your A-disk. The decompression is currently done by using the DETERSE MODULE (shipped with VMSES/E).

The service (RSU PTF) envelope files must have a file type of SERVLINK. Make note of the file names that you are using as you will need to enter them in place of the variable *envfilename* on the VMFINS commands the follow.

The documentation envelope file will be a readable flat file after DETERSE is run against it. It will not get used in the following RSU application instructions.

- 1** Read through the latest RSU information hard copy memo.
- 2** Logon to the z/VM HCD service user ID 5VMHCD20
- 3** If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT 51D minidisk was accessed R/O because someone else has the minidisk R/W, you will need to have the user who has it linked R/W link it as R/O. You then can issue the following commands to obtain write access to it. Do not use *mw* mode.

**link MAINT 51d 51d mr
access 51d d**

The MAINT 51D disk is the default VMSES/E Software Inventory disk. If you use a different minidisk or SFS directory, you should use that address or SFS directory name here.

4 Mount the RSU tape on the tape drive as virtual device 181. You must use 181. If you have a CORrective service envelope (SERVLINK) file make sure that is it available on the A-disk or any minidisk or SFS directory accessed as C.

5 Receive the documentation

Receive the documentation on the RSU. This step will also load the cumulative Apply Status Table (SRVAPPS) which identifies all preapplied service contained on the tape. These files are loaded to the 51D disk.

a If receiving the RSU from **tape**

vmfins install info (nomemo

b If receiving the RSU from an **envelope** file

vmfins install info (nomemo env *envfilename*

envfilename is the file name of service (RSU PTF) envelope file (SERVLINK) that represents volume 1 of the RSU.

6 Determine DASD sizes for disks to receive service.

In order to receive the service from the RSU, you need to have adequate space available on the alternate APPLY and DELTA disks. The required sizes are identified in the HCD/HCM for z/VM documentation (5VMHCD20 MEMO D) received in the previous step.

7 Setup the correct minidisk access order

vmfsetup 5VMHCD20 {VMHCD | VMHCDSFS}

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

8 Merge the APPLY disks for HCD/HCM for z/VM.

Next, you must prepare your system to receive the service from the RSU. To do this, you must first clear the alternate APPLY disk for receipt of the service from the RSU.

Enter the VMFMRDSK command to merge the alternate apply disk to the APPLY disk. This will clear the alternate APPLY disk.

vmfmrdsk 5VMHCD20 {VMHCD | VMHCDSFS} apply

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

9 You can obtain additional information about the service on the RSU and how it will affect your local modifications by invoking the VMFPSU command. This command creates an output file, **appid PSUPLAN**, which you can review. See *z/VM: Service Guide* for an explanation of this file.

vmfpsu 5VMHCD20 {VMHCD | VMHCDSFS}

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

This command produces an output file that contains information about the service on the RSU compared against the service and local modifications on your system. The file name is **appid PSUPLAN**, where **appid** is specified in the PPF file.

A.1.2 Receive the Preapplied, Prebuilt Service

1 Refresh the HCD/HCM for z/VM service disks by loading new service from the RSU.

a If receiving the RSU from **tape**

vmfins install ppf 5VMHCD20 {VMHCD | VMHCDSFS} (nomemo link

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

b If receiving the RSU from an **envelope** file

vmfins install ppf 5VMHCD20 {VMHCD | VMHCDSFS} (nomemo link env *envfilename*

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

If you have more than one envelope for the RSU then you need to enter the file name of volume 1 of the RSU. You will be prompted for the others when needed.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF 5VMHCD20
             VMHCD :PRODID 5VMHCD20%VMHCD?
             Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINS2603I Processing product :PPF 5VMHCD20 VMHCD :PRODID
             5VMHCD20%VMHCD
VMFREQ2805I Product :PPF 5VMHCD20 VMHCD :PRODID 5VMHCD20%VMHCD
             has passed requisite checking
VMFINT2603I Installing product :PPF 5VMHCD20 VMHCD :PRODID
             5VMHCD20%VMHCD
VMFSET2760I VMFSETUP processing started for 5VMHCD20 VMHCD
VMFUTL2205I Minidisk|Directory Assignments:
             String   Mode   Stat  Vdev  Label/Directory
VMFUTL2205I LOCAL     E     R/W   2C2   HCD2C2
VMFUTL2205I APPLY    F     R/W   2A6   HCD2A6
VMFUTL2205I          G     R/W   2A2   HCD2A2
VMFUTL2205I DELTA    H     R/W   2D2   HCD2D2
VMFUTL2205I BUILD0   I     R/W   300   HCD300
VMFUTL2205I BUILD2   J     R/W   29D   HCD29D
VMFUTL2205I BASE1    K     R/W   2B2   HCD2B2
VMFUTL2205I SYSTEM   L     R/O   493   MNT493
VMFUTL2205I ----- A     R/W   191   HCD191
VMFUTL2205I ----- B     R/O   5E5   MNT5E5
VMFUTL2205I ----- D     R/W   51D   MNT51D
VMFUTL2205I ----- S     R/O   190   MNT190
VMFUTL2205I ----- Y/S   R/O   19E   MNT19E
VMFSET2760I VMFSETUP processing completed successfully
VMFREC2760I VMFREC processing started
VMFREC1852I Volume 1 of 1 of INS TAPE yynn
:
VMFREC2760I VMFREC processing completed successfully
VMFINT2760I VMFINST processing completed successfully
VMFINS2760I VMFINS processing completed successfully
Ready;
```

2 Check the receive message log (\$VMFREC \$MSGLOG) for warning and error messages. If necessary, correct any problems before going on. For

information about handling specific receive messages, see the appropriate *z/VM: System Messages and Codes*, or use online HELP.

vmfview install

A.1.3 Process Additional Service

1 Apply additional service

The VMFAPPLY command is used to reapply service that was not contained on the refresh tape that was already installed for the component.

Applying service with preapplied, prebuilt service will reapply any reach-ahead service that may be on the system **or** indicate that there are no reach-ahead PTFs to be applied.

vmfapply ppf 5VMHCD20 {VMHCD | VMHCDSFS}

Use **VMHCD** for installing on minidisks or **VMHCDSFS** for installing in Shared File System directories.

Messages VMFAPP2122E and VMFAPP2109R will be displayed only if you have reach-ahead service that needs to be reapplied. If you receive these messages, enter **1** in reply to VMFAPP2109R to reapply the reach-ahead service (as shown in the example below).

VMFAPP2122E The set of PTFs in the Apply Status Table (5VMHCD20 SRVAPPS) on the 2A2 (G) disk is not a subset of the PTFs in the highest Level Apply Status Table on the 2A6 (F) disk. This is an inconsistent state.

VMFAPP2109R VMFAPPLY will automatically correct the problem identified by message 2122E by including the missing PTFs in the current Apply List. Enter (1) to continue; (0) to quit.

1

If you receive these messages, enter **1** for VMFAPPLY to reapply the reach-ahead service.

2 Check the apply message log (\$VMFAPP \$MSGLOG) for warning and error messages. If necessary, correct any problems before going on. For information about handling specific apply messages, see the appropriate *z/VM: System Messages and Codes*, or use online HELP.

vmfview apply

3 If necessary, rework **local modifications**.

The output from the VMFPSU command (which was run in an earlier step), *appid* **PSUPLAN** file, can be used to indicate what local service or mods are affected by the RSU Tape. If a PTF is applied and it contains service to a part for which you have a local modification, you will need to rework the local modification. Refer to the *z/VM: Service Guide*.

A.1.4 Build the New Service Level and Place Into Production

To rebuild all objects that were affected by reach-ahead service that was reapplied, and local modifications **continue** with the instructions in 7.2.4, “Update the Build Status Table” on page 24. This will also lead you into the steps to place HCD/HCM for z/VM into production.

A.1.5 Determine RSU Service Level

The service contained on each RSU constitutes a new service level. Use this service level when ordering corrective service. The service level is updated in the system inventory when the RSU is installed.

To find out the current service level for HCD/HCM for z/VM you can use the VMFSIM QUERY command or if you use the automated service procedures you can use SERVICE command with the STATUS operand.

The following is an example using VMFSIM to query the current RSU service level.

vmfsim query vm sysrecs tdata :ppf *ppfname* :stat The output from this command is similar to the following console log. The last part of the status line indicates the RSU service level: 0501

```
VMFSIP2408I RESULTS FOR
          TDATA :PPF 5VMHCD20 :STAT
:PPF 5VMHCD20 VMHCD
:STAT RECEIVED.mm/dd/yy.hh:mm:ss.userid.RSU-0501
```

The following is an example of using the SERVICE command to query the current RSU service level.

service vmhcd status

The output from this command is similar to the following console log. The last part of message VMFSRV1225I indicates the RSU service level: 0501


```
VMFSRV2760I SERVICE processing started  
VMFSRV1225I VMHCD (5VMHCD20%VMHCD) is at service level RSU-0501  
VMFSRV2760I SERVICE processing completed successfully
```

Appendix B. Moving HCD/HCM for z/VM to SFS Directories and Creating a PPF Override

By default, z/VM HCD is installed to minidisks, as part of the z/VM System deliverables, unless you choose to install HCD/HCM for z/VM to SFS during the initial z/VM installation. However, you can move some of the HCD/HCM for z/VM minidisks to SFS directories after installation. Refer to Figure 6 on page 11 to see which minidisks can reside in SFS. You can use either the default file pool, VMSYS, or a file pool of your choice.

A summary of the steps that are needed to place HCD/HCM for z/VM into SFS are:

- Allocate space in the user-defined file pool
- Provide the installation user ID, 5VMHCD20, access to the file pool
- Create the necessary HCD/HCM for z/VM subdirectories
- Copy files from the minidisks to the new SFS subdirectories
- Create a PPF override, if not using the default file pool or subdirectory names.

Where to next

You need to do one of the following:

- If you want to place HCD/HCM for z/VM into SFS directories **using the defaults defined in the 5VMHCD20 PPF file** you should use the MOVE2SFS command, as documented in the *z/VM: CP Commands and Utilities Reference*.
- If you want to place HCD/HCM for z/VM into your **own user-defined file pool or SFS directories**, continue with the instructions in B.1, "Setup SFS File Pool and Directories" on page 37.
- If you need to **just create a PPF override**, continue with the instructions in B.3, "Create Product Parameter File (PPF) Override" on page 39.

After you have chosen one of the previous options and completed the steps required (whether in this appendix or in the *z/VM: CP Commands and Utilities Reference*) you need to return to the section that pointed you to this appendix and continue from there (if you were pointed to this appendix).

B.1 Setup SFS File Pool and Directories

Notes:

1. The steps that follow help you determine the HCD/HCM for z/VM file pool space requirements, file pool enrollment, and SFS directory definitions. If not all of these steps are required - for example, you are changing only SFS directory or subdirectory names - adapt these instructions as needed for your environment.
2. The steps that follow assume that a user-defined SFS file pool name is being used. If you will be using the VM default VMSYS file pool name, substitute it in any place you see 'user-defined file pool' or *userfilepool*.
3. For more information about planning for, generating and managing a file pool and server, see *z/VM: File Pool Planning, Administration and Operation*.

- 1** Determine the number of 4k blocks that are required for SFS directories by adding up the 4K blocks required for each SFS directory you plan to use.

If you intend to use all of the default HCD/HCM for z/VM SFS directories, the 4K block requirements for each directory are summarized in Figure 6 on page 11.

This information is used when enrolling the user ID 5VMHCD20 to the user-defined file pool.

- 2** Enroll user 5VMHCD20 and CBDIODSP in the user-defined file pool using the ENROLL USER command:

```
ENROLL USER 5VMHCD20 userfilepool: (BLOCKS blocks)
ENROLL USER CBDIODSP userfilepool:
```

where *blocks* is the number of 4k blocks that you calculated in the previous step.

Note: This must be done from a user ID that is an administrator for the user-defined file pool.

- 3** Determine if there are enough blocks available in the file pool to install HCD/HCM for z/VM. This information can be obtained from the QUERY FILEPOOL STORGRP command. The output from this command is a list of storage groups in the file pool and the number of 4K blocks free. If the number of 4K blocks free is smaller than the total 4K blocks needed to install HCD/HCM for z/VM you need to add space to the file pool. See *z/VM: File Pool Planning, Administration, and Operation* manual for information on adding space to a file pool.

- 4 Create the necessary subdirectories using the CREATE DIRECTORY command.

Note: All of the HCD/HCM for z/VM subdirectories are shown in the create directory commands. If you are not planning on creating them all then just enter the commands for the ones you plan to create.

A complete list of default HCD/HCM for z/VM SFS directories is provided in Figure 6 on page 11.

```
set filepool userfilepool:  
create directory userfilepool:5VMHCD20.VMHCD  
create directory userfilepool:5VMHCD20.VMHCD.object  
create directory userfilepool:5VMHCD20.VMHCD.applyalt  
create directory userfilepool:5VMHCD20.VMHCD.applyprd  
create directory userfilepool:5VMHCD20.VMHCD.delta  
create directory userfilepool:5VMHCD20.VMHCD.local  
create directory userfilepool:5VMHCD20.VMHCD.builtst  
create directory userfilepool:5VMHCD20.VMHCD.buildprd  
create directory userfilepool:5VMHCD20.VMHCD.buildhlp
```

If you have changed any of the default SFS directory names then use your new name in place of the old name in the create directory command.

If necessary, see the *z/VM: CMS Commands and Utilities Reference* manual for more information about the CREATE DIRECTORY command.

- 5 Give the z/VM HCD TCP/IP dispatcher service machine, CBDIODSP, READ authority to the HCD/HCM for z/VM production code using the GRANT AUTHORITY command.

```
grant auth userfilepool:5VMHCD20.vmhcd.buildprd to CBDIODSP (read newread  
grant auth userfilepool:5VMHCD20.vmhcd.builtst to CBDIODSP (read newread  
grant auth userfilepool:5VMHCD20.vmhcd.local to CBDIODSP (read newread
```

If necessary, see the *z/VM: CMS Commands and Utilities Reference* manual for more information about the GRANT AUTHORITY command.

- 6 If you intend to use an SFS directory as the work space for the 5VMHCD20 user ID, include the following IPL control statement in the 5VMHCD20 directory entry:

```
IPL CMS PARM FILEPOOL VMSYS
```

This will cause CMS to automatically access 5VMHCD20's top directory as file mode A.

B.2 Copy Minidisk (or SFS) Files to SFS Directories

- 1 Copy the files from the HCD/HCM for z/VM minidisks (or from the VMSYS file pool, if HCD/HCM for z/VM is already installed there) to your new user-defined SFS file pool and directories using the VMFCOPY command.

Note: Repeat the ACCESS and VMFCOPY commands, that follow, for each disk or SFS directory you need to copy. Refer to Figure 6 on page 11 for the default minidisk and SFS directory names for HCD/HCM for z/VM.

```
access vdev e
```

```
access dirid f
```

```
vmfcopy * * e = = f (prodid 5VMHCD20%VMHCD olddate replace
```

Where

- *vdev* is the minidisk you are copying files from. If you are copying from SFS then substitute in the SFS directory name in place of *vdev*.
- *dirid* is the name of the (target) SFS directory that you are copying files to.
- 5VMHCD20%VMHCD is the PRODID defined within the 5VMHCD20 PPF file for the minidisk and SFS HCD/HCM for z/VM components.

The VMFCOPY command will update the VMSES PARTCAT file on the target directory.

B.3 Create Product Parameter File (PPF) Override

This section provides information to help you create a product parameter file (PPF) override. The example used in this section is how to change the shared file system (SFS) file pool where HCD/HCM for z/VM files reside. Refer to the *z/VM: VMSES/E Introduction and Reference* for more information on PPF overrides.

Note: Do **not** modify the product supplied 5VMHCD20 \$PPF or 5VMHCD20 PPF files to change the VMSYS file pool name or any other installation parameters. If the 5VMHCD20 \$PPF file is serviced, the existing \$PPF file will be replaced, and any changes to that file will be lost. By creating your own \$PPF override, your updates will be preserved.

The following process describes changing the default file pool name, "VMSYS" to "MYPOOL":

1 Create a new \$PPF override file or edit an existing override file.

xedit *overname* \$PPF *fm2*

overname is the PPF override file name (such as "myvmhcd") that you want to use.

fm is an appropriate file mode. If you create this file yourself, specify a file mode of A.

If you modify an existing override file, specify a file mode of A or D, based on where the file currently resides (A being the file mode of a R/W 191 minidisk, or equivalent; D, that of the MAINT 51D minidisk or whatever minidisk or SFS directory contains the VMSES/E Software Inventory.

2 Create (or modify as required) the Variable Declarations (:DCL.) section for the VMHCDSFS override area so that it resembles the :DCL. section as shown below.

```
:OVERLST. VMHCDSFS
*
*****
:VMHCDSFS  VMHCD 5VMHCD20
*****
:DCL. UPDATE
&INS191 DIR MYPOOL:5VMHCD20          * VMSES/E WORK DISK
&LOCAL  DIR MYPOOL:5VMHCD20.VMHCD.LOCAL * LOCAL DISK
&BAS1Z  DIR MYPOOL:5VMHCD20.VMHCD.OBJECT * BASE DISK
&DELTZ  DIR MYPOOL:5VMHCD20.VMHCD.DELTA * HCD VM SERVICE FILES
&APPLX  DIR MYPOOL:5VMHCD20.VMHCD.APPLYALT * AUX AND INVENTORY FILE
&APPLZ  DIR MYPOOL:5VMHCD20.VMHCD.APPLYPROD * AUX AND INVENTORY FILE
&BLD0Z  DIR MYPOOL:5VMHCD20.VMHCD.BUILDST * TEST DISK
&BLD1Z  DIR MYPOOL:5VMHCD20.VMHCD.BUILDPRD * PRODUCTION DISK
&BLD2Z  DIR MYPOOL:5VMHCD20.VMHCD.BUILDHLP * HELP FILES
&BLD3Z  LINK MAINT 493 493 MR          * BKWLIB TXTLIB
&DSP191 LINK CBDIODSP 191 291 MR      * DISPATCHER 191 DISK
&HCDID1 USER 5VMHCD20
&RSKSRV USER CBDIODSP
:EDCL.
:END.
*****
*
```

This override will replace the :DCL. section of the VMHCDSFS override area of the 5VMHCD20 \$PPF file.

- 3 If your \$PPF override file was created at file mode A, copy it to file mode D—the Software Inventory minidisk (MAINT 51D).

file

copyfile *overname* \$PPF *fm = = d (olddate*

- 4 Compile your changes to create the usable *overname* PPF file.

vmfppf *overname* **vmhcdfs**

where *overname* is the file name of your \$PPF override file.

Now that the *overname* PPF file has been created, you should specify *overname* instead of 5VMHCD20 as the PPF name to be used for any VMSES/E commands that require a PPF name.

Appendix C. Copy of HCD/HCM for z/VM Sample Files

This appendix documents copying the supplied sample files from the sample minidisk or SFS directory to the appropriate execution disk or directory. It is shown here in case you lose or need to replace the files as they were shipped on the z/VM System deliverables. Refer to the *z/VM: I/O Configuration* and *z/OS and z/VM: Hardware Configuration Manager User's Guide* manuals for detailed information on the samples files.

- 1** Logon to z/VM HCD TCP/IP dispatcher, **CBDIODSP**, to put sample files on the A-disk.

- a** If installing using minidisks

```
link 5VMHCD20 2C2 2C2 rr
access 2C2 b
```

- b** If installing using Shared File System

```
access VMSYS:5VMHCD20.VMHCD.LOCAL b
```

- 2** Copy the sample HCD/HCM for z/VM profile to the A-disk of user CBDIODSP:

```
copyfile CBDSDFPF SAMPPROF B HCD PROFILE A
```

The COPYFILE command will create an initial HCD/HCM for z/VM profile on the A-disk of user CBDIODSP.

- 3** For using the Hardware Configuration Manager (HCM) as Graphical User Interface (GUI) to HCD/HCM for z/VM, perform the following steps:

- a** Copy the sample PROFILE EXEC to the A-disk of user CBDIODSP.

```
copyfile CBDSDFPF SAMPPROF B PROFILE EXEC A
```

- b** Copy the sample PROFILE RSK to the A-disk of user CBDIODSP.

```
copyfile CBDSDFPF SAMPPROF B PROFILE RSK A
```


- c** Copy the sample USERID MAP to the A-disk of user CBDIODSP. If you want to restrict the HCM instances allowed to connect to HCD/HCM for z/VM, you may want to adapt this file.

copyfile CBDSUID SAMP MAP B USERID MAP A

- d** Copy the sample SGP FILE to the A-disk of user CBDIODSP.

copyfile CBDS SGP FILE B SGP FILE A

- e** Copy the sample NAMES file to the A-disk of user CBDIODSP. The names file is not on the sample disk or directory but instead it is on the test or production build disk or directory. This file can be modified by the customer to change default values.

- 1** If installing using minidisks

link 5VMHCD20 300 300 rr
access 300 b
copyfile CBDCONF NAMES B = = A

- 2** If installing using Shared File System

access VMSYS:5VMHCD20.VMHCD.BUILDTST b
copyfile CBDCONF NAMES B = = A

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z/VM HCD function level 520 Program Directory

Publication number: GI11-2855-00

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Contents of program directory	1	2	3	4	5	N
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Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of customizing the product	1	2	3	4	5	N
Ease of migrating the product from a previous release	1	2	3	4	5	N
Ease of putting the system into production after installation	1	2	3	4	5	N
Ease of installing service	1	2	3	4	5	N

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Program Number: 5741-A05

Printed in U.S.A.

G111-2855-00

